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Comments of the Institute for Energy and Environmental Research (IEER) and the Nuclear Information and Resource Service (NIRS) on the Application to FERC regarding the Exelon Proposal to Acquire PHI

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The following are comments of the Institute for Energy and Environmental Research (IEER) and the Nuclear Information and Resource Service (NIRS) on the *Joint Application for Authorization of Disposition of Jurisdictional Assets and Merger Under Sections 203(a)(1) And 203(a)(2) of the Federal Power Act*, submitted by Exelon Corporation and Pepco Holdings, Inc. (PHI) – a proposal for Exelon to acquire PHI, as described in the Application filed with the Federal Energy Regulatory Commission, on May 30, 2014.

1. Joint Application statements on the merger

Exelon and PHI propose a merger by which Exelon would acquire PHI. The transaction would make PHI “a wholly-owned subsidiary of Exelon.”¹ Its regulated portion (nearly the whole of PHI) would be placed in Exelon’s distribution subsidiary, Exelon Energy Delivery Company (EEDC), while the rest would be placed in other parts of Exelon (Filing pp. 13-14). The Application claims that the merger is “consistent with the public interest” and that it is not required to show that the transaction “positively benefits the public interest” (Filing p. 14-15).

The following are at the center of Exelon’s argument that the transaction is consistent with the public interest. The Application states that the transaction will provide the public with benefits in three areas (Filing pp. 1-2):

¹ In these comments we describe the application as statements made by Exelon, since Exelon is acquiring PHI, which would become a wholly-owned subsidiary of Exelon if the transaction if approved.

- **“Synergies, Efficiencies and Cost Savings.** The Transaction is expected to generate synergies and result in overall aggregate cost saving opportunities for the combined company....”
- **“Enhanced Reliability.** Exelon and Pepco Holdings share a strong commitment to enhancing reliability....By creating a company with a larger work force across a broader geographic footprint, the Transaction also will increase the ability of the Applicants to engage in mutual assistance in the aftermath of storms and other natural disasters.
- **“Commitment to Competition, Renewable Energy, Energy Efficiency, and Demand Response.** *Exelon and Pepco Holdings have a shared commitment to fostering the continued development of competitive wholesale and retail markets for electricity and natural gas, renewable energy, and energy savings programs. The combined company is expected to be able to draw upon the intellectual capital, technical expertise and experience of a deeper and more diverse workforce, with particular skills in each of these areas. The combined company also should be better able to invest in and deploy new processes and technologies.*” (italics added)

Exelon also states that three other criteria show that the transaction is consistent with the public interest (Filing pp. 2-3):

“(1) the Applicants are making hold harmless rate commitments that the Commission has found on a number of occasions to adequately address any concerns regarding the potential impact of a merger on rates; (2) the Transaction has no impact on the jurisdiction either of this Commission or of any state utility commission; and (3) the Applicants’ operating utility companies already have in place protections against affiliate cross-subsidization, and the Applicants are proposing before the relevant state commissions additional ring-fencing provisions for the Pepco Holdings’ utilities that will ensure that the Transaction raises no cross-subsidization issues.”

2. Competition and renewables

Exelon’s commitment to renewable energy is questionable and contingent at best; at worst, Exelon has in recent times opposed renewable energy, arguing, for instance, that wind energy is a principal factor in the unprofitability of some of its nuclear plants. Exelon’s proposals in relation to renewable energy would affect ISO markets, including PJM, and the distribution side of all utilities, while increasing the cost of wholesale generation and reducing the revenues obtained by owners of solar and wind power plants.

One of the proposals that Mr. Crane is arguing for is a “clean energy standard” that would include existing nuclear as clean energy because it has low carbon emissions:

We honestly believe that if there is a push to change the emissions profile of the U.S. generating sector, it either should be through legislation or regulation. We would prefer legislation, because you'd think there would be great compromise. There'd be some bipartisan debate, and something would come out of it. I think what the Administration is going to now is regulation, with [Clean Air Act, Section] 111(d) coming out, which will direct the states to have their own profile on carbon reduction. That could go a long way to having individual state designs. Then you can come up with, if it's a clean energy standard, or it's a regional greenhouse gas initiative standard, something that we all can come together and debate and negotiate from the different arguing factions right now. [Crane 2014, ca. min. 32:45 to 33:52. Audio was transcribed by IEER in all cases quoted in these comments.]

Replacing existing Renewable Portfolio Standards by “clean” energy standards that include existing nuclear would devastate the renewable energy industry in the PJM region. For instance, about 22 percent of Maryland’s electricity requirements were from the in-state nuclear plant at Calvert Cliffs (belonging to Exelon) and another 15 percent was imported from other parts of PJM, including from Exelon plants. Maryland’s RPS is only 20 percent by 2022, including a 2 percent carve out for solar. Replacing Maryland’s RPS by a “Clean” Energy Standard that includes existing nuclear would essentially eliminate most future wind development. It would do nothing to reduce CO2 emissions, since 37 percent nuclear is already part of Maryland’s electricity mix. It would also gut solar development beyond 2022. If the current policy of setting renewable portfolio standard targets is replaced by one that includes existing nuclear plants, it is easy to see that existing nuclear would prevent the replacement of fossil fuel resources by new wind and solar generation.

The EPA’s 111(d) proposal, also seeks to increase nuclear revenues from existing plants, as the EPA Administrator Gina McCarty recently explained (Wernau 2014). Yet the EPA draft 111(d) rule notes that the median CO2 reduction cost when driven by renewable portfolio standards was just \$3 per metric ton (EPA 2014, p. 34869). In contrast, the cost of reducing CO2 by subsidizing “at-risk nuclear units” would be \$12 to \$17 per metric ton (EPA 2014, p. 34871).

FERC needs to look beyond the words in Exelon’s application to what it is actually doing in the world to promote policies that would increase the revenues for its nuclear units. These policies do not show a support for existing renewable energy policies in the PJM region or any region. Rather, Exelon seeks to change these policies in a way that suits the merchant nuclear generation part of Exelon at the likely expense of ratepayers and at the expense of renewable energy.

We are aware that at least one FERC commissioner, Commissioner Tony Clark, seems to favor the replacement of renewable portfolio standards with a “clean” energy standard that includes

existing nuclear in it, in a manner that would include an increase in revenues for nuclear units over what present markets bring; this is exactly the outcome that Exelon seeks, as is evident, among other things, from Mr. Crane's May 13, 2014, speech cited above.² At the joint Nuclear Regulatory Commission-FERC meeting on May 28, 2014, Mr. Clark expressed the following view about clean energy standards and nuclear revenues:

It seems to me that perhaps an elegant solution *that fits within our markets* that we've dealt with a long time is the issue of portfolio standards, and typically we've -- states that have adopted them have gone the renewable portfolio standard route, which itself can cause challenges for nuclear units that are maybe looking to clear and receive bilateral contracts, or receive bilateral contracts.

So an *elegant solution might be just pivoting to a clean energy standard*, if the concern of the state is emissions and particularly if we're moving into a 111(d) world, where carbon emissions are going to be regulated. *These would seem to be some of the most valuable units we have.*

Has there been any movement that we've observed to clean energy standards in states, which would seem to solve a lot of these concerns and problems, and *might increase the revenue stream for nuclear units while maintaining the valuable environment benefits that they have.* [NRC-FERC 2014, pp. 36-37, italics added]

The concept of renewable energy, or at least its minimal attributes, is well understood and accepted. It has been defined by the Intergovernmental Panel on Climate Change as follows:

Renewable energy is obtained from the continuing or repetitive currents of energy occurring in the natural environment and includes non-carbon technologies such as solar energy, hydropower, wind, tide and waves and geothermal heat, as well as carbon-neutral technologies such as biomass. [IPCC Glossary 2007 p. 814].

In other words, natural processes replenish renewable energy sources; using them within the parameters of natural replenishment does not diminish them. Nuclear energy is not renewable, because thorium and uranium resources, while vast, came with the formation of the Earth and are not replenished.

² We note here that statements on the website of Nuclear Matters (www.nuclearmatters.com), financed by Exelon, as well as in many newspaper advertisements purchased by Nuclear Matters, are generally along the lines of Mr. Crane's speech.

In contrast, there is no accepted definition of clean energy. We are dismayed that Commissioner Clark expressed the view that nuclear is clean using a one-dimensional CO₂ emissions argument, ignoring other essential attributes that any reasonable definition of clean energy must have. For instance, how can a technology that uses and creates fissile materials, be considered clean energy? Each 1,000 MW light water reactor creates about 30 Nagasaki-size bombs worth of plutonium each year. One of the essential problems with spent fuel management is the fact that it contains that plutonium, which, if separated, could be used to make vast numbers of nuclear weapons. Further, the most serious nuclear accidents can cause intergenerational ecological harm to natural resources over vast areas. This much is evident from the experience of the Chernobyl and Fukushima accidents, independent of the many divergent estimates of harm to human health that have been made.

Exelon's position in regard to renewable energy and specifically the replacement of renewable portfolio standards by clean energy standards would likely increase the cost of CO₂ reduction, potentially devastate the renewable energy industry, and increase the cost to ratepayers. We submit that it is essential for FERC to examine in detail whether Exelon's proclaimed commitment to renewable energy extends to existing renewable portfolio standards and to an extension of those standards to higher levels. Solar and offshore wind are Maryland's most important energy resources, as they are for the rest of the mid-Atlantic coastal region (NREL Potentials 2012). In reviewing the application, it is essential that FERC examine:

- the cost to ratepayers of replacing RPS by "clean" energy standards that include nuclear plants, including existing plants;
- the impact on ISO markets of potential reductions in wind and solar capacity that could be caused by including existing nuclear plants in "clean" energy standards, in place of current RPS rules.
- The cost of CO₂ reductions beyond present levels of emissions in each state affected by the merger proposal and in PJM and MISO, should Exelon succeed in its goal of replacing state RPS by "clean" energy standards.

In carrying out this review, it is essential for FERC commissioners to set aside any pre-conceived ideas that nuclear is "clean energy" based only on a single characteristic. We suggest that the following working definition of clean energy:

Clean energy sources must be obtainable and usable without significant or lasting harm to health, ecosystems, and the environment. They must produce energy with zero or near zero direct CO₂eq emissions and low emissions of other pollutants. Their production and use must not cause irreversible ecological damage or intergenerational damage to the environment either during routine use or as a result of severe accidents. They must not use or produce fissile materials, which can be used to make nuclear weapons. Examples: solar energy, wind energy, and run of the river hydro systems, deployed with due attention to

ecosystem integrity, are clean energy sources. Fossil fuels and nuclear power are not clean energy sources; neither are large hydropower reservoirs that emit significant amounts of methane. The use of biomass may or may not be clean energy. Palm oil produced by clearing tropical forests is an example of dirty biomass energy.

These considerations are relevant to a review of the merger application since the merger would greatly increase Exelon's economic presence in certain areas, especially in Maryland and Washington, D.C. In the latter case, it would have essentially all D.C. electricity customers. In Maryland, its share of residential customers would increase from about 50 percent to about 80 percent. While it is true that the merchant generation is separated from distribution utilities by a regulatory wall, there would nonetheless be a huge impact by the very fact of the increase in size of Exelon in that region. It would increase Exelon's market power both in the economic and political arenas.

Any fundamental change in RPS rules, for instance to "clean" energy standards will be made in the legislative arena. Exelon's CEO has indicated that changing RPS rules to "clean" energy rules that include existing nuclear plants is one option for the company to increase its revenues. Such a change would cause significant harm to the economies of the region and to the prospects of a renewable energy future.

The merger would increase Exelon's presence in the political arena. If corporate money is free speech, as the Supreme Court has ruled, then FERC is obliged to consider the effect of increasing Exelon's ability to speak in the political arena that the merger would cause because it could significantly affect ratepayers, the environment, and the operation of PJM. Exelon already has a significant presence in the PJM region, even without PHI. Before its power and presence in that region is increased by two million customers and about four-and-a-half billion dollars in annual revenue, it is critical that FERC examine whether the states in the region will be able to preserve their present approach to renewable energy via renewable portfolio standards. Given the manner in which Exelon is seeking to increase its revenues for nuclear to the exclusion of significant and critical considerations relating to the weaknesses of nuclear and the strengths of other energy sources, is it really in the public interest to allow Exelon to increase its economic and political market power in the region, especially in Maryland and the District of Columbia, where it would be the dominant presence in the electricity sector? FERC needs to carefully examine whether the granting of the application is in the public interest with these and related considerations in mind.

FERC also needs to examine in more detail the claim that Exelon is making for the reliability of nuclear during prolonged "stress periods." That claim, is in large measure, based on the fact that nuclear reactors have a long-term supply of fuel in the reactor that can outlast any severe emergency such as Hurricane Sandy:

What differentiates a nuclear plant in that point: we load a core of a nuclear plant. We fuel the core to run 18 to 24 months. It does not matter about the weather outside. The wind's blowing, the sun's shining, if the pipeline is there or not. That plant runs. And, so, it's highly reliable. It can support the needs of the grid in stress periods. [Crane 2014, ca. min. 23:23 to 23:44]

FERC staff member J. Arnold Quinn would appear to agree (NRC-FERC 2014, p. 33). Yet, this claim must be set against a number of negatives. For instance, nuclear power is inflexible (as has been noted by the Acting FERC chair³). If nuclear should be compensated for having firm fuel supply that can help in emergencies, should it be penalized for being inflexible? After all, it is the inflexibility of nuclear that is, in large measure, responsible for negative spot market prices when renewable generation spikes. Should there be supplemental compensation for natural gas plants, batteries, hydropower, and demand response capacity because they are all highly flexible?

Consider water, as another example. The CEO of Exelon has noted the need to develop air-cooled condensers for nuclear power plants, since water supply is a vulnerability in the context of the more severe droughts that are now a feature of the meteorological landscape (Crane 2014, ca. min. 52:45 to 53:34). Nuclear plants have sometimes been derated or shut down when they are most needed due to problems of extreme heat and drought. Should existing nuclear be penalized for lack of reliability in the context of droughts that do not affect solar and wind and gas turbines? Or should energy resources that use minimal or no water be compensated for that fact? Are we going to go on adding compensation for each feature of every kind of power source? Mr. Crane did suggest that natural gas with dual fuel capacity should also be given added compensation. (Crane 2014, ca. min. 23:44 to 24.05) But what would this kind of thinking, that piles more and more compensation for capacity above present levels, do for electricity rates and for consumers? What would the economic impacts on low income households and small businesses? FERC needs to determine the impacts of this view of the electricity industry on rates and ratepayers before it accepts Exelon's application and increases its economic and political power.

Exelon generally has not acknowledged the negatives of existing nuclear plants. Mr. Crane did acknowledge one implicitly – the need for large amounts of water – by citing the need to develop air-cooled condensers:

One other part of that's critical in the system designing that the future of the availability of water as we have seen in many decades is very uncertain. As we

³ Acting Chair Cheryl A. LaFleur: "I'm interested from Tom or Arnie to comment on what are the sort of reliability increments that the nuclear fleet provides?"

"It's [sic] obviously doesn't ramp up and down with the wind. *That's the opposite of what it does.* But it certainly has its own characteristics, and I'd be interested in your comments on that, from either an economic or a reliability standpoint." (NRC-FERC 2014, p. 33, italics added).

see drought patterns come in, you look in, you can see heat maps where it shows by 2050, even if you do not believe in climate change, you can see droughts in Florida. You go to the western states, generators, the generation technology has got to really start to focus in on air cooled condensers, less dependency on water. The modular reactors lend themselves, as some of the new natural gas plants lend themselves, to that utilization of that technology much better than a large scale generation facility. [Crane 2014, ca. min. 52:45 to 53:34]

But he did not suggest that this problem, which can particularly affect the availability of nuclear at critical peak periods, should result in lower revenues for existing nuclear generation, which could then be transferred to generating systems like solar and wind, which use little or no water.

Exelon has simply persisted in an unbalanced, one-sided argument that existing markets do not compensate nuclear capacity adequately. Exelon's claim in its application that it has a commitment to development of competitive markets (quoted above) must therefore be viewed with considerable skepticism in light of Mr. Crane's very recent failure to make a balanced presentation of the pluses and minuses of nuclear capacity. The appeal for greater revenues for nuclear capacity in the absence of a full consideration of all relevant issues, especially during extreme events, is an unbalanced view that looks to profits more than reliability or ratepayer interests. Exelon seeks additional revenues for its merchant nuclear fleet. As we will see, it is in the meantime seeking to ensure its profits by increasing them on the regulated side of the electricity business (Section 3 below).

The proposed merger would increase Exelon's ability to enhance the revenues from its nuclear fleet by increasing its political and economic presence in the region. As such FERC should seek clarification of these issues and calculate the impact on ratepayers, on the structure of PJM, on the cost of deep CO₂ reductions (such as Maryland's aspirational goal of 90 percent reduction by 2050), and the ability of ratepayers to choose their electricity sources, including rooftop solar.

This last matter, rooftop solar, is of considerable consequence. Exelon opposes net metering rules now in place in Maryland and elsewhere. Mr. Crane has argued that net metering rules need to be changed; yet net metering is the law for rooftop solar installations. Changing those rules would not only affect consumers on the distribution side of system; it would affect the entire PJM ISO region.

For instance, the new rules Mr. Crane suggests would reduce compensation for rooftop solar by compensating sales of solar into the grid at wholesale rather than retail prices:

As I said earlier, if you put a solar panel on your roof, that is your choice. If you have excess power and want to sell that power back to the grid, that's fantastic for the grid. But what has to happen to enable that? The design of the system,

the local distribution system, has got to handle the voltage fluctuations. They've got to be able to dispatch the power out and they've got to be able to dispatch the power in. There's a specific capacity need that each customer has. If they've got a 200 amp service entrance on their house, that utility distribution system needs to be designed to provide them 200 amps at any instantaneous moment they want. Just because they put a solar panel on doesn't mean they're disconnecting from the grid. There's a dependency, but there should be an enabling on the grid to allow that and the consumer should be compensated at the wholesale price of energy. [Crane 2014, ca. min. 56:27 to 57:32]

It is widely acknowledged that calculating the value of the grid to rooftop solar and the value of solar to the grid and to societal needs is a complex issue that eventually needs to be resolved. Yet, the suggestion that we rush to a wholesale price for the compensation of solar energy exports to the grid from the rooftop is unreasonable. For example, this does not acknowledge the immense economic benefit to the utility and to other consumers of the reduction in transmission and distribution losses during peak load periods and the investment savings potential of such a reduction, or the zero fuel cost that is baked into the system for the life of the solar installation. As was the case with the value of nuclear having fuel on board for a long period, Mr. Crane's view was unbalanced and prejudicial to consumer choice, to CO2 reductions, and to a reasonable consideration of how we should set the value of rooftop solar energy or how we should transform the grid into a more robust and resilient one. (Happily, at least, Mr. Crane recognized the necessity or the inevitability of that transformation).

A degradation of solar revenues if wholesale price compensation for exports of rooftop-generated electricity to the grid is adopted could unfairly cause a serious drop not only of solar energy but for overall renewable energy development in the mid-Atlantic region and therefore PJM as a whole. Specifically, solar and offshore wind are seasonally complementary since the latter is much more plentiful in the winter than in the summer. An optimization of offshore wind and distributed solar resources could therefore reduce the need for storage. Reducing the viability of solar on the distribution side, therefore, could have a significant impact on the economics of large-scale deployment of offshore wind energy, the region's main wind energy resource, because without solar the inter-seasonal variability would be greater. This would increase the cost of transitioning to a low-emissions energy system based mainly on resources available within the PJM region. Figure 1 shows solar and wind resource profiles during a week in January. Wind is clearly dominant. The resource availability is reversed in the summer.

Second, a strong component of distributed solar would enable development of microgrids that are mainly renewable, with some support from batteries and combined heat and power. Such an approach is important for achieving long-term CO2 emission reduction goals and grid resilience at the same time. Nuclear, by its nature, can play no part in microgrids. The potential for solar to be at the center of a low-emissions resilient system of interconnected microgrids is a critical value that must be considered. Reducing the economic viability of

rooftop solar before all these issues can be considered and without a reasonably fair method of compensation, would affect ratepayers, the grid, and the environment in a number of ways that FERC is obliged to consider.

Solar and offshore wind are complementary in Maryland: a very fortunate thing

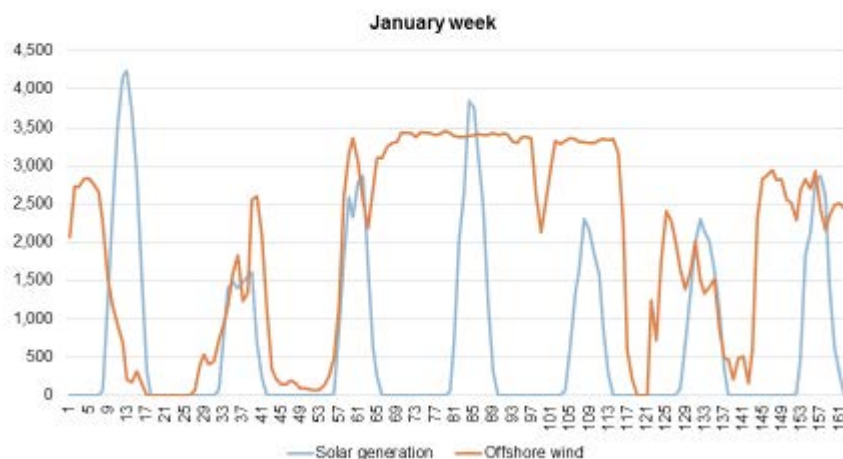


Figure 1: Offshore wind and solar in Maryland during a week in January (Source: IEEER)

Exelon is also hostile to subsidies for wind energy:

On the PTC [Production Tax Credit], it's been one of our most vocal that pays \$23 an hour for a wind unit that is in operation no matter what the price is. We think that is a perfect tax incentive that was needed to get the wind industry jumpstarted. And if you look at where we're at now with wind over 70 gigawatts of wind installed in the country, that's some pretty good penetration. So, the industry is jumpstarted. Should we still be subsidizing it? We believe not. [Crane 2014, ca. min. 30:35 to 31:12]

He made a similar argument against the current RPS structure:

Thirty states have renewable portfolio standards that dictate that the providers, the suppliers of energy, and or the utilities in the state have renewables up to 20 to 25 percent by 2020 or 2025. Thirty states have determined they want that – which we think is within the states' rights. But what's happened? You've got 50 states paying for a production tax credit, for 30 states to support their mandates. Within those 30 states there is a large overbuild, especially when you get into the Midwest part of the country, that it is now causing a pricing issue and an

economic issue for other low carbon or zero carbon generating facilities. [(Crane 2014, ca. min. . 31:12 to 32:04]

Mr. Crane did not note that wind power flows to all states from the 30 states that currently have RPS rules; he did not note that operating nuclear plants are also present in just about the same number of states (31). Nor did he note that RPS rules have driven CO2 emissions down at exceptionally low cost, with a median estimate of \$3 per metric ton (as noted above).

In contrast to Mr. Crane's hostility to current RPS rules and to net metering of distributed solar, at least one of the subsidiaries of PHI, Pepco, supported virtual net-metering for community solar in Washington, D.C. (Sierra Club 2013). This is important for increasing distributed solar and it is critical for energy justice, since it will allow renters, including low and middle income renters to benefit from owning solar installations. It should be noted that Exelon opposed virtual net metering for community solar projects in Maryland even on a pilot project basis. Acquisition of Pepco by Exelon could therefore represent a significant setback for the prospects for net-metered community solar, including in Maryland.

Further, if one argues that the energy sector should evolve to one that has no subsidies, one must recognize all subsidies and put them on the table. There was no hint that Mr. Crane admits that nuclear has had subsidies since its inception. New nuclear plants are being subsidized currently by ratepayers in Georgia and South Carolina. Vogtle 3 and 4 in Georgia have obtained federal loan guarantees at no cost whatsoever. The greatest nuclear subsidy of all, of course, is the Price-Anderson Act, which limits the liability of nuclear reactor owners to about 13 billion dollars in case of a massive accident. Beyond that, it would be the taxpayer's liability. The official post-Fukushima accident evaluation by the French Institute for Radiological Protection and Nuclear Safety estimates median damages from a severe accident to be in the range of 120 to 430 billion euros, or about 160 to 580 billion dollars (IRSN 2013). Estimates of damage from severe spent fuel pool accidents range into the hundreds of billions of dollars. For Mr. Crane to argue against the Production Tax Credit for wind but not put the Price-Anderson Act on the table, when we are looking at the immense damage from Fukushima, indicates a similarly unbalanced view of subsidies that is parochial and specific to the nuclear industry. Given this consistent lack of balance, it is necessary for FERC to examine closely Exelon's views of subsidies and their effects on CO2 reduction costs, reliability, and the future of the PJM grid in a more balanced way. *Mr. Crane ought at least to be asked if Exelon would be willing to exchange the cancellation of the Price-Anderson Act protection for the dropping of the production tax credit for wind.*

Exelon's power to affect the political arena has been on display in Illinois, according to a legislator and a business newspaper account of the failure of renewable energy legislation. The Illinois legislature recently adopted a resolution that included the following text:

[W]e urge the United States Environmental Protection Agency (EPA) to immediately adopt rules that treat low-carbon resources, like nuclear power plants, equally, regardless of age or fuel source; provide flexibility to the State; and require actions to secure the continued operations at Illinois' nuclear power plants as a compliance mechanism to meet any new federal GHG regulations and, further, to adopt rules that allow the State to offset and balance emissions from fossil fuel electric generation with emissions-free nuclear generation... [Illinois General Assembly House 2014 p. 6]

This appears to be in line with getting nuclear into a clean energy standard in place of renewable energy rules. A news report of the process noted the following:

An effort in Springfield to overhaul Illinois' clean-energy law to jump-start renewable power projects in the state is dead for this legislative session.

The initiative — pursued for more than a year by environmentalists who say the state's law to require more of the power consumed here to come from clean sources is broken — has stalled. So says state Sen. Don Harmon, D-Oak Park, who has led the negotiations over the issue.

He confirmed the effort died after Exelon Corp., by far the most influential energy industry player in Illinois, threatened earlier this year to close two or three of its six nuclear power plants in the state due in part to subsidized wind farms that it says are dampening power prices and making some of its nukes unprofitable.

The issue, he said, “caused everyone to take a step back.” [Daniels 2014]

The trade press has revealed Exelon lobbying documents that put pressure on Illinois legislators by warning that it may shut down nuclear plants. (Caddell 2014; Heidorn and Caddell 2014). This indicates Exelon's determination to maintain its existing nuclear fleet by raising the specter of shutdowns and unemployment and using the same approach to try to set back renewable energy development. It is imperative that FERC investigate this resolution in more detail to examine if Exelon is indeed as committed to renewable energy as it claims. FERC should also determine what role, if any, Exelon had in drafting or editing the resolution quoted above.

3. Risk to ratepayers

The Exelon press release announcing the merger had the following statement:

The transaction will further expand Exelon's regulated holdings, ensuring a balanced earnings mix as power prices recover. [Exelon Press Release 2014 (April 30)]

This is a remarkable statement; it is important to note that it does not appear in Exelon's May 30th filing to FERC. A complete filing would have included and explained it in detail. The reason for the omission is not far to seek. Exelon's acquisition of PHI bolsters its position on Wall Street and with its shareholders, while a part of its merchant fleet is getting revenues that are less than the cost of operation. This gives Exelon a huge stake in maintaining the guaranteed profits from the regulated side, potentially at the expense of ratepayers either directly or, by limiting choice, indirectly.

We have already discussed Exelon's goals of increasing nuclear revenues for its existing nuclear fleet without balanced consideration of the pluses and minuses of the alternatives. The press release describes its goal of increasing the size of its profits from the regulated side of the electricity business, where the rate of return is guaranteed by public service commissions. Exelon's advocacy against present renewable energy arrangements are the stick it wields, given its power; but Mr. Crane also offered a carrot:

And then we all support renewables, but we need to make sure the penetration of the renewables are not at the detriment of the reliable clean sources of generation that can come. So, that's where we want the future to be and we can't just hope for the future or bet on it to come, we have to engage with all the stakeholders and that's what many of the excellent folks in the room here are engaged in over the next couple of years to design our future, not just let our future be dictated upon us by special interest lobbies and commercial...It's kind of interesting, the large lobbies that we all have – its commercial. At the end of the day, solar wants to sell more panels, wind wants to sell more turbines, nuclear wants to stay relevant in the game going forward. So, we all know what we are here for. We are here to run a business and provide a return to the shareholders, while providing a product that the consumer can use, but we need to do that in a combined coordinated approach versus being at each other's throat. [Crane 2014, ca. min. 1:10:04 to 1:11:18]

Consumers have no inherent interest in maintaining existing nuclear or any other particular source of energy. They are interested in their attributes; the nature of the attributes needed for a twenty-first century grid is, in many ways, quite different from the 100-year model of the grid we live with today. The changes in attributes should enable a transition from a vulnerable, centralized, water-intensive, relatively inflexible model to a democratized, resilient clean grid

that makes minimal demands on precious resources such as water. It is not about helping nuclear or solar or wind to make profits. Solar is useful because, when installed in a distributed fashion, it can democratize the grid by increasing consumer choice. Wind is useful as a seasonal complement to solar that can help that democratization be achieved at lower cost. Both have essentially no water use. In addition, they have no CO2 emissions. But they are variable; the best complements to solar are wind are highly flexible capacity resources like demand response, hydropower, batteries, natural gas (especially combined heat and power), and compressed air energy storage. In this emerging scheme, flexibility is the most needed attribute for dispatchable resources; it is as Acting Chairman LaFleur has noted, an attribute that nuclear does not have.

It is for the FERC to put all the attributes on the table and consider whether it wants to prematurely reward nuclear, as Exelon wishes it to do, by increasing its market and political power in the PJM region and granting the merger application. The Illinois events of this year are a cautionary tale. While Exelon has not laid out its agenda fully in its FERC filing, Mr. Crane did so quite clearly in his May 13, 2014, speech. FERC should make a detailed examination of the positions expressed in it and base a considerable portion of their evaluation of the Application on it.

4. Bidding into capacity markets

FERC also needs to investigate Exelon's recent bidding into PJM capacity markets and the failure of five of its nuclear units to make the grade. One analysis noted that its revenues would increase as a result:

Exelon shareholders shed no tears last week over the news that five of the company's nuclear units failed to clear PJM's base residual auction.

In fact, analysts say the company will earn almost \$150 million more in capacity revenue from planning year 2017/18 than it would have if all of the company's capacity had cleared: The additional supply would have reduced the clearing prices.

Exelon confirmed that its Oyster Creek plant in New Jersey, as well as Byron Units 1 and 2 and Quad Cities Units 1 and 2 in Illinois, failed to clear the auction. [Heidorn and Caddell 2014]

Exelon's stock price increased as a result of the higher capacity price. Exelon claims to have bid its units at full avoided costs (Heidorn and Caddell 2014). Was this true? Surely this needs a FERC investigation since the higher prices are going to affect consumers throughout the PJM region, including PHI customers.

5. Conclusions

In light of the above, the anodyne statement in the FERC application that Exelon is committed to renewables and to competition (quoted above) can hardly be accepted at face value. On the contrary, it needs critical examination by FERC.

We have provided evidence that the merger would increase Exelon's economic and political presence in the region in a way that could significantly harm the region's renewable energy goals, especially in Maryland, increase costs for CO2 reduction, reduce consumer choice, and jeopardize efforts to create a resilient grid in the PJM region that has far more distributed resources, a system where consumers had more choice on a level playing field. The statements in its application that it, Exelon, is committed to competition and to renewable energy should be viewed with skepticism. Exelon's goals as expressed by its CEO, Chris Crane, as well as its recent actions indicate that ratepayers may be at significant risk of paying more while seeing diminished ability to exercise choices, notably rooftop solar based on net metering, available to them today. Diminished solar development may also make the development of wind more costly since seasonal complementarity would be reduced. This would affect the entire PJM region.

There is general agreement that a number of regulatory and economic transformations are needed to go from the hundred-year old model of centralized generation which does not have the reliability and resilience we need today to a resilient, low-emissions, distributed grid that would carry us through normal times and extreme events better than the present system. Granting Exelon larger profits (via acquisition of PHI), larger market presence, and more power before these issues are decided in the regulatory area (in the manner that the state of New York is doing, for instance) would be a serious mistake. At a minimum, FERC should reject Exelon's contention that no issues of concern to FERC or to state regulators are involved in the proposed merger.

Exelon's acquisition of PHI will enable it to increase profits from regulated distribution utilities in times that are challenging for at least a part of its nuclear fleet. But this will require that it hold on to all its customers and revenues from both the merchant and regulated sides. It will have a larger financial interest in extracting more revenue from rooftop solar and in preventing the expansion of net metering or solar valuation that would have revenue implications close to net metering, no matter how reasonable it may be. Mr. Crane's lack of balance in presenting the pluses and minuses of various energy sources as he argues for higher nuclear revenues needs thorough review by FERC. We were dismayed to see Commissioner Clark preemptively agreeing with Exelon's position on clean energy standards (though he did not explicitly say so). A replacement of Maryland's RPS by a clean energy standard that includes nuclear would be

devastating to Maryland's renewables industry. We urge all the commissioners, including Commissioner Clark, not to prejudge the issue of clean energy standards. A reasonable definition of the term "clean energy" is needed that would reflect the many criteria that a source of energy must meet before it can deserve that term. As noted, a one-dimensional definition that only considers CO2 emissions is far too narrow.

We further request that FERC make a thorough investigation of the various issues raised here. The arguments and facts presented here indicate that there are important areas in which the acquisition of PHI by Exelon may adversely affect the public interest. FERC should make a careful and detailed inquiry into these areas to determine whether that would be the result.

Further, given that the issues affect both the PJM region as well as regulatory and legislative concerns in four states and the District of Columbia, we believe that that FERC should defer any approval of this application until all state regulatory bodies as well as the District of Columbia have had a chance to review Exelon's applications. That way FERC will also be able to review any amendments to the merger proposal that arise out of the state-level regulatory review process.

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